



# Conserve O Gram

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## Caring For Photographs: General Guidelines

Museum, archival and manuscript collections include photographs. Photographs include photographic prints, slides, negatives, and transparencies in thousands of processes, formats, and genres. This *Conserve O Gram* provides general guidelines for caring for these materials.

To Preserve Your Photographs You Must Do This...	Don't Do This...
<p><b><i>Managing the Environment</i></b></p> <ul style="list-style-type: none"><li>• Maintain general storage and work environments at <math>&lt;20^{\circ}\text{C}</math> (<math>68^{\circ}\text{F}</math>), and 20-40% RH. Film-based negatives prefer a 20-30% RH.</li><li>• Keep light levels at 50-100 Lux (5-10 footcandles) for most photographs when in use for research as well as exhibit.</li><li>• Store photographs in dark storage.</li><li>• Use the time-based monitoring system to select the best storage space. See the second Reilly report in <i>References</i>.</li><li>• Keep food, drink, dirt, cleaning chemicals, and photocopy machines away from photo storage, exhibit, or work spaces.</li><li>• Filter the air to keep out gaseous pollutants and particulates such as nitrogen dioxide, sulphur dioxide, hydrogen sulfide, and ozone.</li></ul> <p><b>Cold Storage</b></p> <ul style="list-style-type: none"><li>• After reformatting, place original prints, negatives, and transparencies (<i>not</i> glass plates, daguerreotypes, ambrotypes, tintypes, or other images on glass or metal) in packaging (archival folders in board boxes in double freezer weight Ziplock™ bags) in cold storage.</li><li>• Maintain temperatures at <math>1.7\text{-}4.4^{\circ}\text{C}</math> (<math>35\text{-}40^{\circ}\text{F}</math>).</li><li>• See <i>NPS Museum Handbook</i>, Part I, Appendix R, Section F for guidance on cold storage.</li><li>• Retrieve original items from cold storage only in emergency circumstances and no more than once a year. Let images warm to room temperature in the plastic enclosure.</li></ul>	<ul style="list-style-type: none"><li>• Don't allow your environment to vary more than <math>\pm 2^{\circ}\text{F}</math> or <math>\pm 3\%</math> RH.</li><li>• Don't store photographic materials in an unsecured space.</li><li>• Don't place materials in cold storage without reformatting them for access and duplication and packaging the originals in boxes and polyethylene bags <i>unless</i> you are in a disaster response mode, such as stabilizing materials after a flood or fire.</li><li>• Don't allow maintenance staff to use harsh cleaning chemicals such as ammonia, bleach, or anything you can smell in your storage space; instead clean with bench brushes, brooms, and rarely, with soap powder and a nearly dry mop.</li></ul>

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<p><b>Housing Photographs</b></p> <ul style="list-style-type: none"> <li>• House most photographs, including prints, transparencies, or negatives on paper or film, in neutral pH four-flap envelopes or L-weld sleeves within acid-free folders either vertically in flip top archival boxes or flat in shallow print boxes.</li> <li>• Place no more than one image in a sleeve, folder, or enclosure, unless you use neutral pH interleaving.</li> <li>• Place the folders in shallow print (solandar) boxes or upright in vertical document (drop-front) boxes on powder-coated steel or aluminum shelving.</li> <li>• House photos by size, format, and type (for example, keep prints separate from negatives and curved stereographs separate from flat prints).</li> <li>• Use only same-sized folders in a single box so that materials don't disappear beneath each other.</li> <li>• If you must place two photos of different sizes in a single folder, use a stiff neutral pH divider between them.</li> <li>• Use neutral pH separation sheets and copy images to maintain provenance and original order of removed items.</li> <li>• Label copies as such on their reverse edge in pencil.</li> <li>• Transcribe all label information in pencil onto the new containers while the containers are still empty.</li> <li>• Produce copies of valuable originals for research, copy production, and exhibit purposes.</li> </ul>	<ul style="list-style-type: none"> <li>• Don't over or under fill boxes. A box is over full if you can't easily insert a hand between folders; it's under full if folders droop, bend, and lean.</li> <li>• Don't house photos in a compressed, leaning, bent, folded, or rolled state.</li> <li>• Don't use rubber bands, paper clips, plastic clips, pressure sensitive tapes, adhesives, adhesive or pressure sensitive labels or Post-it® notes on photographs.</li> <li>• Don't use acidic wood pulp paper, glassine (including acid-free glassine), Kraft paper, or polyvinyl chloride (PVC) for interleaving or housing images.</li> <li>• Don't use buffered paper sleeves for most negatives, prints, or slides, unless the item is cellulose nitrate or cellulose acetate, or unless a conservator recommends buffered paper; instead use neutral pH paper.</li> </ul>
<p><b>Selecting Housing Materials</b></p> <ul style="list-style-type: none"> <li>• Select housing materials that pass the Photographic Activity Test (PAT). <i>Conserve O Gram 14/2</i> discusses the PAT.</li> <li>• Choose paper and board housing materials, such as sleeves, envelopes, mat boards, folders, enclosures, and boxes, that are made of neutral pH (preferably unbuffered), alum-rosin-free, and lignin-free, high alpha-cellulose (&gt;87%) paper.</li> <li>• Choose polyester film that is a Mylar® type D or ICI Melinex® #516 polyester when plastic is the preferred housing material, as long as you can maintain a stable RH of less than 70%.</li> <li>• Use only neutral pH paper housing or polyester film housing for most photographs. Use buffered housing for cellulose nitrate or cellulose acetate negatives. You may also use buffered housing with other black-and-white negatives and prints, but <i>not</i> with color images.</li> <li>• See <i>Conserve O Gram 14/2</i> for guidance on when to use plastic or paper housing materials.</li> <li>• House photographs that have acidic or brittle backing inside four-flap neutral pH sleeves with a piece of buffered board slipped behind the acidic mount for support.</li> </ul>	<ul style="list-style-type: none"> <li>• Don't store alkaline-sensitive materials (such as blueprints, cyanotypes, and color photos) in buffered paper because buffering can cause color change.</li> <li>• Don't place glass plates or images with brittle or flaking emulsions in plastic sleeves because static electricity can cause emulsions to separate from the support.</li> <li>• Don't try to separate images from their acidic supports.</li> <li>• Don't leave original images on exhibit exposed to light or dust.</li> <li>• Don't laminate or dry or wet mount original photographs.</li> <li>• Don't store photos in their frames permanently.</li> </ul>

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<p><b>Removing Photographs from Collections for Preservation or Copying</b></p> <ul style="list-style-type: none"> <li>• Keep a stock of acid-free separation sheets on hand during rehousing.</li> <li>• Note the image's new location on the separation sheet before the sheet is placed in the image's previous location.</li> <li>• Insert a photographic or acid-free xerographic copy of the item next to the separation sheet for reference.</li> </ul>	<ul style="list-style-type: none"> <li>• Don't remove photographs from an archival collection without replacing them with a completed separation sheet and an acid-free xerographic or photographic copy of the photograph to maintain the provenance and original order of the collection.</li> </ul>
<p><b>Handling Photographs</b></p> <ul style="list-style-type: none"> <li>• Set up handling and use policies. Train staff in policies and policy enforcement. Tell users the policies when they arrive.</li> <li>• Develop written guidelines for processing collections.</li> <li>• Write and practice disaster prevention and recovery policies and procedures.</li> <li>• Create policies on handling for loaned or exhibited items.</li> <li>• Keep work spaces clean and uncluttered.</li> <li>• Encourage the use of copies of fragile or valuable items.</li> <li>• Protect the image surface by wearing clean cotton gloves.</li> <li>• Place a rigid support under images before lifting or moving.</li> <li>• Remove images from paper sleeves by gently flexing the sleeve and pulling the sleeve away from the image.</li> </ul>	<ul style="list-style-type: none"> <li>• Don't handle broken glass plates or images with flaking emulsions or place them in polyester sleeves.</li> <li>• Don't touch image surfaces, press images together, or yank images from housing or backings.</li> <li>• Don't forget to clean all viewing surfaces and equipment.</li> <li>• Don't clean photographs without training or a conservator's guidance.</li> <li>• Don't leave images exposed to light as light damage is both cumulative and irreversible.</li> <li>• Don't use negatives for reference.</li> </ul>
<p><b>Working with a Conservator</b></p> <ul style="list-style-type: none"> <li>• Consult a conservator if photographs exhibit the classic signs of a poor environment, such as:                         <ul style="list-style-type: none"> <li>- extensive curling or planar distortion</li> <li>- silver mirroring of image details</li> <li>- emulsion cracking, crazing, softening, or flaking</li> <li>- mold, insect, or vermin damage</li> </ul> </li> <li>• Contact a conservator if you experience:                         <ul style="list-style-type: none"> <li>- fire or flood</li> <li>- dirty or broken glass plates</li> <li>- ripped, torn, or cracked images</li> <li>- images separated from their supports</li> <li>- images being harmed by placement in albums or scrapbooks</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Don't try to mend rips, tears, broken glass plates, or other physical damage in photographs by yourself.</li> <li>• Don't remove tape or tape residue without the help of a conservator.</li> <li>• Don't treat photographs for mold, flaking emulsions, cockling or buckling, or curl, or try to clean photos without a conservator.</li> <li>• Don't force open tightly rolled photographs without a conservator.</li> <li>• Don't disassemble albums or scrapbooks.</li> </ul>

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<p><b><i>Preventing and Recovering from Disasters</i></b></p> <ul style="list-style-type: none"> <li>• Update or prepare your Emergency Operation Plan to include staff home and work phone numbers and disaster mitigation and response procedures. Keep a copy at home.</li> <li>• Prioritize collections for disaster recovery before the disaster. Ideally salvage color materials first.</li> <li>• Keep disaster recovery supplies on hand.</li> <li>• Air dry all wet photographs immediately by hanging them on a line with clips or placing them on a clean surface <b>OR</b> freeze wet images in a commercial or home freezer, then thaw and air dry the photographs in a clean, dry, space with good air movement and low humidity.</li> </ul>	<ul style="list-style-type: none"> <li>• Don't vacuum thermal dry the photographs as gelatin layers may stick together causing image loss.</li> <li>• Don't freeze or vacuum freeze dry glass plates, ambrotypes, tintypes, daguerreotypes, or other images on metal, glass, ceramics, or leather as this may lead to emulsion separation and loss.</li> <li>• Don't use clips that will cause an indentation on wet photographs image surface.</li> </ul>

For additional information on photographic collections, see *Conserve O Grams* 14/1, 14/2, 14/3, 14/5, and *NPS Museum Handbook*, Part I, Appendix R.

For reformatting see *Conserve O Grams* 19/10, 19/11, 19/12, and 19/13.

Consult the Primer on *Disaster Preparedness, Management, and Response for Paper-Based Materials* on the NPS World Wide Web Site at <<http://www.cr.nps.gov/csd/primintro.html>>

## References

Northeast Document Conservation Center. "Care of Photographs," *Technical Leaflet*, Andover, MA: NEDCC, 1991.

Reilly, James. *Care and Identification of 19th Century Photographic Prints*. Rochester, NY: Eastman Kodak, 1986.

Reilly, James. *New Tools for Preservation*. Washington, DC: Commission on Preservation and Access, 1995.

## Sources

See *NPS Tools of the Trade* (available only to NPS staff) for housing and interleaving materials and a list of vendors. Archival-quality materials can be purchased from suppliers, such as the following:

Conservation Resources International, 8000-H Forbes Place, Springfield, VA 22151; (800) 634-6932 or (703) 321-7730; Fax (703) 321-0629.

Gaylord Bros., Box 4901, Syracuse, NY 13221-4901; (800) 448-6160 or (315) 457-5070; Fax (800) 272-3412.

Light Impressions Corporation, 439 Monroe Avenue, P.O. Box 940, Rochester, NY 14603-0940; (800) 828-6216 or (716) 271-8960; Fax (716) 442-7318.

Metal Edge West, Inc., 2721 East 45th Street, Los Angeles, CA 90058; (800) 862-2228 or (213) 588-2228; Fax (213) 588-2150.

University Products, 517 Main Street, P.O. Box 101, Holyoke, MA 01041-0101; (800) 628-1912 or (413) 532-9431; Fax (800) 532-9281.

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